Major Concerns with Grand Rapids RCPP Reach Permit Application as of 12/5/2022

First Correction Request (via MiWaters) 11/30/2020:

1. Cumulative impacts/alternatives analysis do not adequately quantify temporary impacts related to the proposed construction method or assess alternate methods/configurations designed to avoid those impacts.
2. PFAS sampling detected low levels of PFAS throughout the project reach. Plans were revised such that all dredge spoils will be hauled offsite and disposed of at a landfill. However, there has been little/no follow-up conversation related to how construction stormwater will be tested/evaluated to prevent a concentrated discharge of PFAS contamination back to the river. EGLE has indicated that onsite treatment and/or NPDES permitting will likely be required.
3. The hydraulic models submitted for Part 31, Floodplain review need to be coordinated with the FEMA CLOMR review. Our floodplain staff are coordinating this effort with FEMA and the applicant, but a CLOMR has not yet been issued. We will need to review the CLOMR to ensure that it is consistent with modeling provided as part of this application prior to issuing a permit.
4. Grouting of the instream structures is proposed at the wave features. Grouting is strongly discouraged because of the ecological impacts associated with filling of interstitial space between the rock fill. The plans do not account for long-term maintenance requirements for repairing/replacing grout.
5. The wave features generate high velocities and shear stresses, necessitating excavation and armoring of pools below each feature. This results in additional impacts in the project area.
6. Historic boring logs indicate that bedrock is within two feet or less of the stream bed at several locations within the project reach. However, design details indicate excavation of more than 2 feet of alluvium for installation of footer stones. There has been no detailed evaluation of bedrock surface elevations through the RCPP reach similar to what has been completed for the reach upstream of Sixth Street Dam. This creates a potential conflict for constructability of the proposed structures. No evaluation of stability or alternative construction configuration has been provided should bedrock be encountered at elevations above what is shown on plans to be excavated.

See "Correction Request Response Letter – Jan 4 2021.pdf" and referenced documents in MiWaters for additional information related to these issues.

Second Correction Request Letter 2/10/21:

1. Definition of Project Purpose includes terms related to whitewater paddling. The applicant has used this definition to eliminate any alternative that does not achieve the project purpose, i.e. whitewater paddling. The applicant has indicated that in order to achieve desired whitewater paddling benefits, each instream structure must have a minimum of 18" of drop and be configured as proposed to generate "standing wave hydraulics". This narrow definition of project purpose eliminates potential alternatives that would achieve, or even enhance, many of the stated goals (minus whitewater) while occupying much less area and causing far less

negative impact to aquatic resources. Several of these alternatives have been identified in the applicant's alternatives analysis but were rejected because they do not meet the applicant's goal of whitewater paddling benefits as they have defined them.

   a. In addition, several different documents (NEPA, grant applications, EGLE permit application, etc.) define the project purpose differently, presumably in effort to make the documents more attractive for each program. EGLE has requested that project purpose remain consistent, but it remains different in these various documents.
   b. EGLE has preliminarily evaluated use of more natural grade control structures (Newberry Riffles, cross-vanes, W-weirs, etc.) and believe that similar grade control benefit (velocities, shear stresses, sediment transport, fish passage, etc.) could be achieved while disturbing at minimum 70% less area than the proposed project. Current project proposes > 11 acres of permanent impact and ~30 acres of temporary impact, while more natural grade controls would have permanent impacts of 3 acres or less and could be constructed in the wet or with isolation cofferdams which would cause much less than 30 acres of temporary impacts.

2. The application relies heavily on mitigation for impacts to freshwater mussels, including the federally listed Snuffbox Mussel, through creation of a mitigation fund and increasing "preferred hydrophysical habitat" as defined by the applicant. There has been little/no effort to first avoid and then minimize these impacts as part of the design process. Rather, the design started as a whitewater park and then was reconfigured, reduced somewhat to avoid some impacts. EGLE has strong concerns with the creation of potential mussel habitat (and if this will even work) and mitigation funds without first exhausting all efforts to eliminate and reduce areas of impact.
3. The application stresses the need to remove the existing low head dams due to the threat to human health and safety the pose, however, the application does not thoroughly address the increased threat to human health and safety related to increased whitewater paddling opportunities.
   a. In addition to increased risk of injury to paddlers navigating the whitewater features, EGLE has requested that the applicant evaluate risk to all recreational users (wading, swimming, flat water paddling, etc.) related to increased partial and full body contact and water quality concerns. EGLE is aware of several TMDL exceedances in this area of the Grand River.

See "Second CR Response Letter – June 22 2021 – Final.pdf" and referenced documents in MiWaters for additional information related to these issues.

<u>Third Correction Request Letter 6/1/2022:</u>

1. EGLE had requested that the applicant analyze alternatives to the proposed design that utilize more natural restoration techniques (utilize natural channel design). The applicant provided analysis of two additional alternatives: dam removal with grading at each dam location and dam removal with grading at each dam location and addition of random boulders.
   a. EGLE believes that analysis of these two alternatives identifies feasible and prudent alternatives to the proposed design that would result in much less negative impact to aquatic resources.

b. The applicant rejected these alternatives, largely because they do not meet their project goal of whitewater paddling opportunities as defined by a 18 inch drop with standing wave hydraulics.
c. The applicant also notes that their preferred alternative creates more preferred mussel habitat (questionable as stated in Correction Request Letter #2) and provides marginally better fish passage hydraulics. However, the applicant provides no evaluation of cost vs. benefit related to disturbance of far more area (both during construction and permanently) and potential creation of habitat.
d. Both the creation of favorable habitat and decreased velocities and shear stresses are resulting from the proposed structures creating a backwater effect (impounding water much like the low head dams) which allows for deposition of finer grained sediments (more attractive to mussels) and slowing the water down upstream of each structure. Such conditions are not natural to this reach of the Grand River, but if desired, could be achieved via installation of more natural grade control structures causing much less temporary and permanent impacts.

2. The applicant states that isolating then entire work area (half of the river at a time and impacting ~30 acres of river) causes less impact than isolation coffer damming (coffer damming around each proposed structure). EGLE is concerned that impacts to mussels, invertebrates, etc. that occupy the stream bed are not adequately accounted for, resulting in skewed assessment of impacts related to construction methods.

See "Third Correction Request Response Cover Letter.pdf" and referenced documents in MiWaters for additional information related to these issues.

<u>Public Comments and Remaining Concerns Letter 11/4/2022:</u>

1. In addition to several of the outstanding issues noted above from the 3 correction request letters, EGLE also sent a letter summarizing remaining concerns that need to be addressed prior to making a final permit decision and providing public comments received during the public notice and public hearing comment periods.
2. The only additional comment made in this letter that was not covered in previous correction requests was that we'd need to incorporate the comments from the federal (USEPA, USACE, and USFWS) review prior to making a permit decision.
3. We have received no response to this letter to date.

See "Public Comments_Remaining Concerns HNV-A018-7X9N3.pdf" for additional information related to these issues.

<u>General Comments:</u>

1. In addition to the several remaining issues from the 4 letters described above, EGLE has several concerns with the analyses provided and conclusions drawn from those analyses. In general:

a. The alternatives analysis stops short of exploring any option that does not include 18" drop, standing wave hydraulics as a way to avoid and minimize impacts while achieving project/resource goals. Benefits of the preferred alternative are exaggerated while those of other alternatives are downplayed in effort to make the preferred alternative appear more attractive.
b. The bed stability and sediment transport analyses provided indicate that the proposed project will have minimal impact on bed stability and sediment transport when compared to existing conditions, however, velocities and shear stresses are increased at the wave features such that excavation and armoring of pools and grouting of structures is required to maintain stability. More natural grade control structures would not cause these increases nor require the additional impacts to maintain stability. In addition, the bed shear analysis shows consistent increases in several areas where pools are not constructed. If fine sediments exist in those areas, it is expected that they will be scoured and mobilized to downstream area.
c. The analysis of mussel habitat relies heavily on bed shear and presence of fine-grained substrate but ignores several other indicators of suitability of mussel habitat. EGLE has major concerns (in addition to avoidance and minimization of these impacts to begin with) that PHH as define by the applicant may not be a good indicator of creation of suitable mussel habitat or that mussels will occupy these areas after construction.
d. The lack of detailed exploration of bedrock elevation raises serious concerns over constructability and stability of the proposed structures. EGLE expects that bedrock will be encountered in several areas just below the existing bed surface. Without the ability to excavate into bedrock, footer stones may not be able to be installed as proposed, potentially jeopardizing the stability of the structures. No alternative design has been provided. The USACE undertook a large effort to characterize the bed substrate in the reach of river upstream of Sixth Street Dam in order to better understand the bedrock elevations and how this might impact design and construction in that reach. It is recommended that the RCPP reach receive the same level of evaluation and consideration.